



Maximized Energy Savings for 277 volt HID Applications

Function

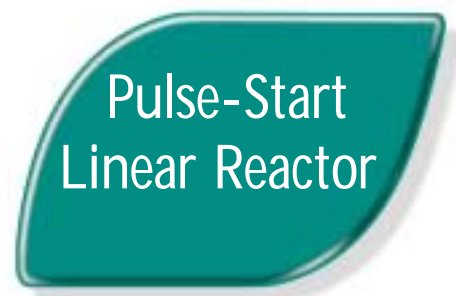
Advance Transformer developed the Linear Reactor ballast for pulse-start metal halide lamps as an energy-saving choice for 277v/60hz applications. Ballast losses are reduced by more than 50% when compared with traditional CWA (constant wattage auto-transformer) type ballasts. Utilizing Advance's exclusive "integral ignitor" construction, Linear Reactor ballasts are smaller, lighter, have fewer components and less wiring connections than comparable CWA ballasts.

Design Highlights

- Because the lamp is started with an ignitor and the 277-volt input is sufficient to operate the lamp, the voltage transformation and wave-shaping functions of a two-coil auto-transformer ballast are not necessary. Hence, only the current-limiting ballast function is required and a significantly more efficient, single-coil reactor ballast may be used.
- The Linear Reactor lamp current is a sine wave. The resultant lamp current crest factor is only 1.4. Lamp manufacturers stress the importance of low crest factor for improved lamp performance: longer life, better lumen maintenance, and improved color consistency.
- The Linear Reactor's unique design eliminates excess line current draw normally associated with reactor ballasts during lamp starting and open circuit conditions. Therefore, fixtures-per-circuit count is the same as with CWA ballasts.
- Linear Reactor ballasts are UL & CSA recognized for safety and are designed to meet both existing as well as newly proposed pulse-start ANSI specifications.
- Thermally protected, Linear Reactor ballasts are available for 150, 200, 250, 320, 350, 400 and 450 watt pulse-start lamps.

Applications

- Supermarkets
- Mass Retail
- Parking Garages
- Light industrial, warehouses



Metal Halide Ballasts



Features	Benefits
Single coil ballast (no voltage transformation necessary)	<ul style="list-style-type: none"> • Reduces ballast losses by more than 50% <ul style="list-style-type: none"> - Maximizes energy savings
Ideal 1.4 crest factor	<ul style="list-style-type: none"> • Maximizes lumen maintenance, lamp life, and color consistency <ul style="list-style-type: none"> - Reduced maintenance costs & fewer fixtures
Auto-reset thermal protection	<ul style="list-style-type: none"> • Safely interrupts power to the ballast in the event of abnormal lamp or ballast failure
Integral Ignitor	<ul style="list-style-type: none"> • Fewer components <ul style="list-style-type: none"> - Fewer wiring connections - Simplifies installation - Allows for compact fixture design
Uses 100°C dry-film capacitor	<ul style="list-style-type: none"> • Small size / No exposed live parts <ul style="list-style-type: none"> - Simplifies fixture assembly and retrofits - 100°C rating assures reliability
Compact size	<ul style="list-style-type: none"> • Fits existing fixtures <ul style="list-style-type: none"> - Fixture manufacturers can go to market immediately - Retrofits are easy
Cooler operation	<ul style="list-style-type: none"> • Extends ballast life • Eliminates fixture thermal issues
Faster run-up (2 min. vs. standard 4 min.)	<ul style="list-style-type: none"> • Minimizes stress on lamp electrodes <ul style="list-style-type: none"> - Extends lamp life
Quicker re-strike after momentary outage (3-4 min. vs. standard 15-20 min.)	<ul style="list-style-type: none"> • Less time in the dark <ul style="list-style-type: none"> - Enhances safety / minimizes down time

Linear Reactor Pulse-Start Metal Halide Ballasts

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Test Procedure to confirm UL conditions of acceptability

ADVANCE Linear Reactor ballasts with integral ignitor are recognized under the component program of Underwriters' Laboratories, Inc. (UL). UL's conditions of acceptability require that the case temperature of the integral ignitor's charging capacitor not exceed 125°C when an operating fixture is tested at its intended ambient temperature rating. The test procedure is as follows:

1. Affix standard Type J/AWG 30 iron-constantan thermocouple to the exposed surface of the ignitor charging capacitor within the coil wrappings using high temperature epoxy cement. Prepared test samples are available from Advance Transformer Co.
2. Install the thermocoupled ballast in the test fixture and operate the fixture in its intended ambient temperature until the system reaches a steady state condition. Then use a standard digital thermometer or analog pyrometer to read temperature of the thermocouple.

Note: For conditions of acceptability, refer UL to Advance Transformer Co. File E94520. Vol 2. Sec. 30A



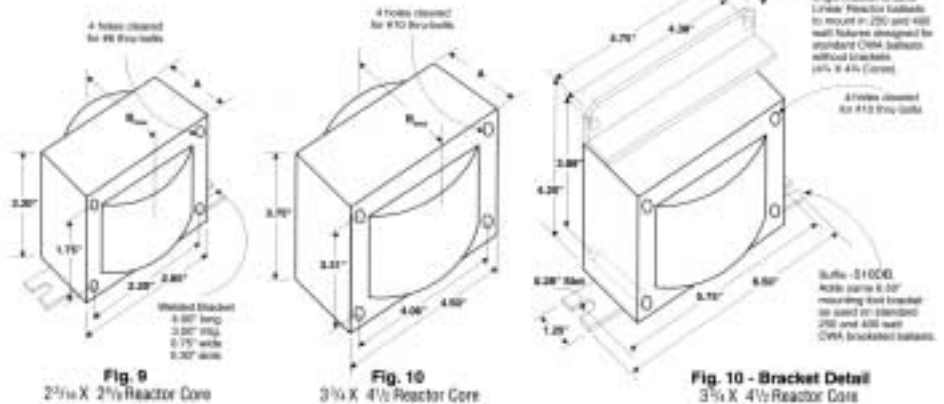
Ignitor charging capacitor 125°C max.

- Ordering information - add proper suffix to catalog number
- 001D replacement / retrofit ballast kit including thermally protected core & coil with -540 welded angle bracket, dry-film capacitor, mounting hardware & instructions (e.g. 71A5837-001D) (not available for 71A5437-BP)
- 500DBP includes thermally protected core & coil with dry-film capacitor
- 510DBP includes thermally protected core & coil with welded bracket and dry-film capacitor
- 540DBP includes thermally protected core & coil with welded angle bracket and dry-film capacitor (not available for 71A5437-BP)

Advance 277volt Linear Reactor Ballast Specifications with integral ignitor and dry-film capacitor, 60hz, min. starting temperature: -40°F/-40°C

	Catalog Number	Discontinued Catalog Number (non-thermally protected)	Watts Input	Max Input Current (Amps)	Nom Open Circuit Voltage	Fuse Rating (Amps)	Dimensions			Non-PCB Capacitor				Total Weight (lbs)	Max Dist To Lamp (ft)	U.L. Bench Top Rise Code 1029_
										Mfd	Min Volt	Dry Film				
							Fig	A	B							
◆NEW	150W LAMP, ANSI CODE M102/M142															
	71A5437-BP	71A5437-B	173	1.5	277	4	9	2.5	4.0	14	280	1.50	2.90	4.2	2	B
	200W LAMP, ANSI CODE M136															
	71A5637-BP	71A5637-B	218	1.3	277	4	10	1.0	3.1	12	280	1.50	2.90	6.0	2	A
	250W LAMP, ANSI CODE M138/M153															
	71A5737-BP	71A5737-B	272	1.5	277	4	10	1.3	3.2	14	280	1.50	2.90	6.5	5	A
	320W LAMP, ANSI CODE M132/M154															
	71A5837-BP	71A5837-B	342	1.9	277	5	10	1.7	3.8	17.5	280	1.50	3.75	9.5	2	A
	350W LAMP, ANSI CODE M131															
	71A5937-BP	71A5937-B	375	2.1	277	5	10	1.9	4.0	20	280	1.75	3.75	10.0	2	A
◆NEW	400W LAMP, ANSI CODE M135/M155															
	71A6137-BP	71A6137-B	425	2.1	277	5	10	1.6	3.8	20	280	1.75	3.75	9.0	2	A
	450W LAMP, ANSI CODE M144															
	71A6337-BP	71A6337-B	480	2.4	277	7	10	1.9	4.0	22.5	280	1.75	3.75	9.5	7	A

Ballast Dimensions



Wiring Diagram

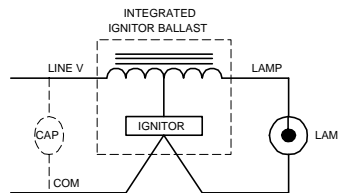


Fig. H

Dry-film Capacitor

